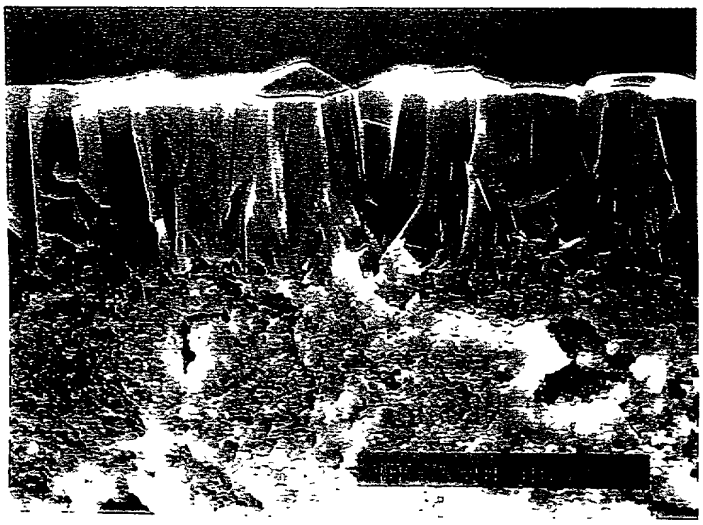
FIG.1



EFS ID: 6626868

FIG.2

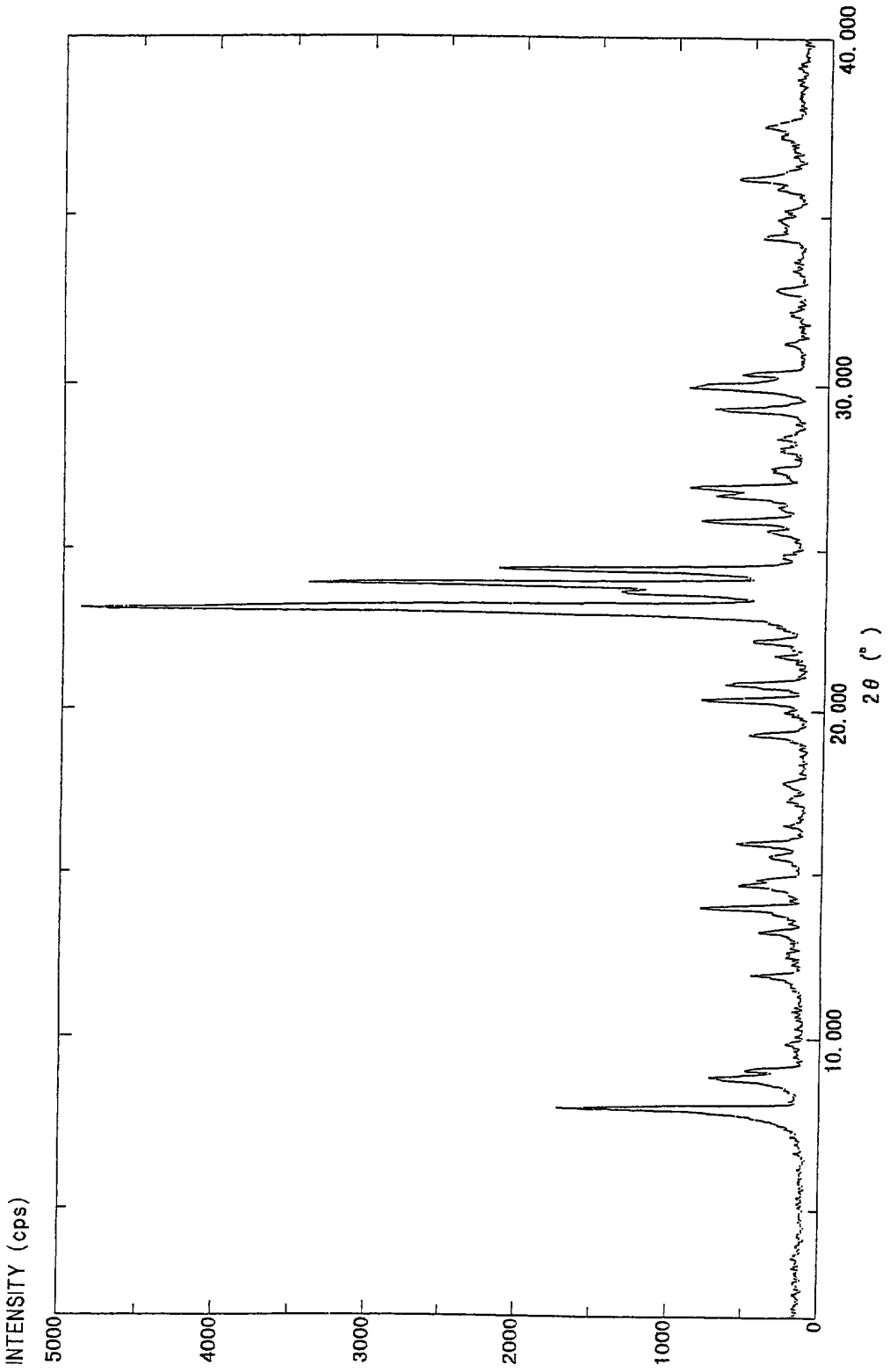

INTENSITY (cps)
5000
4000
3000
2000
1000
0
10.000
20.000
30.000
40.000
2θ (°)

FIG.3

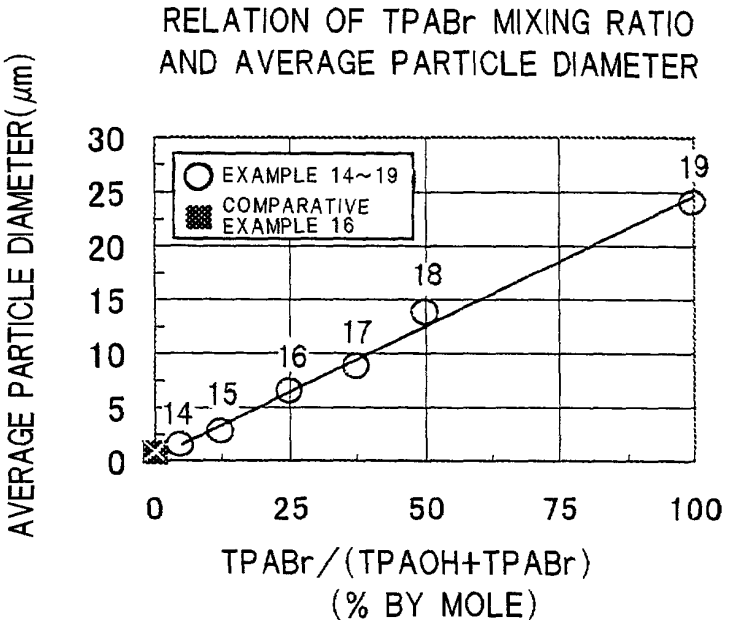

RELATION OF TPABr MIXING RATIO
AND AVERAGE PARTICLE DIAMETER
AVERAGE PARTICLE DIAMETER(μm)
30
25
20
15
10
5
0
EXAMPLE 14~19
COMPARATIVE EXAMPLE 16
14
15
16
17
18
19
0
25
50
75
100
TPABr/(TPAOH+TPABr)
(% BY MOLE)

FIG.4

10μm

FIG.5

10μm

FIG.6

FIG.7

FIG.8

10μm

FIG.9

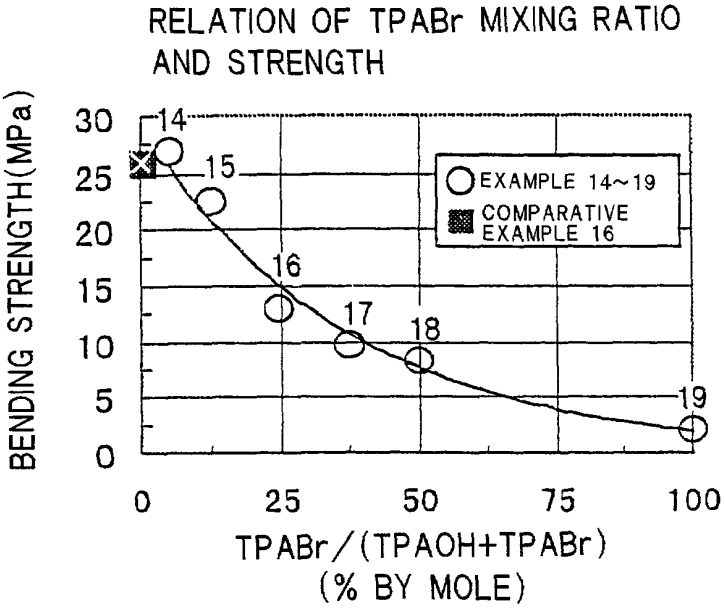

RELATION OF TPABr MIXING RATIO AND STRENGTH
BENDING STRENGTH(MPa)
30
25
20
15
10
5
0
14
15
16
17
18
19
EXAMPLE 14~19
COMPARATIVE EXAMPLE 16
0
25
50
75
100
TPABr/(TPAOH+TPABr)
(% BY MOLE)

FIG.10

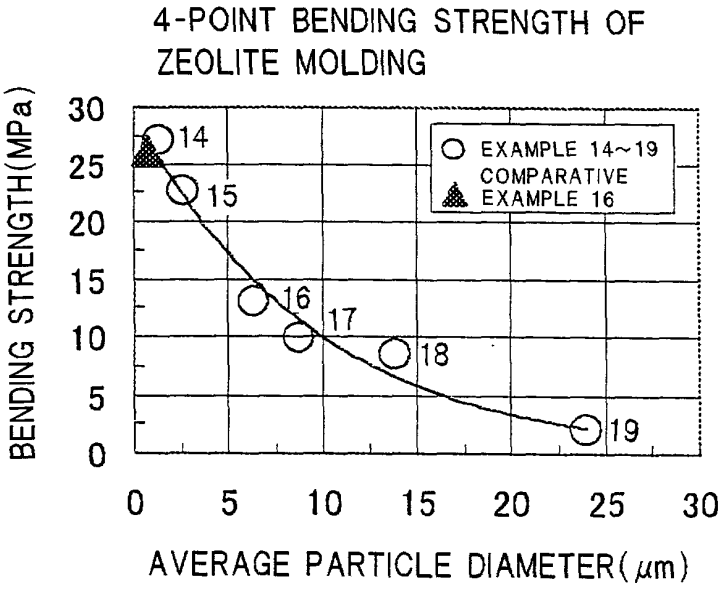

4-POINT BENDING STRENGTH OF ZEOLITE MOLDING
BENDING STRENGTH(MPa)
30
25
20
15
10
5
0
14
15
16
17
18
19
EXAMPLE 14~19
COMPARATIVE EXAMPLE 16
0
5
10
15
20
25
30
AVERAGE PARTICLE DIAMETER(μm)

FIG.11

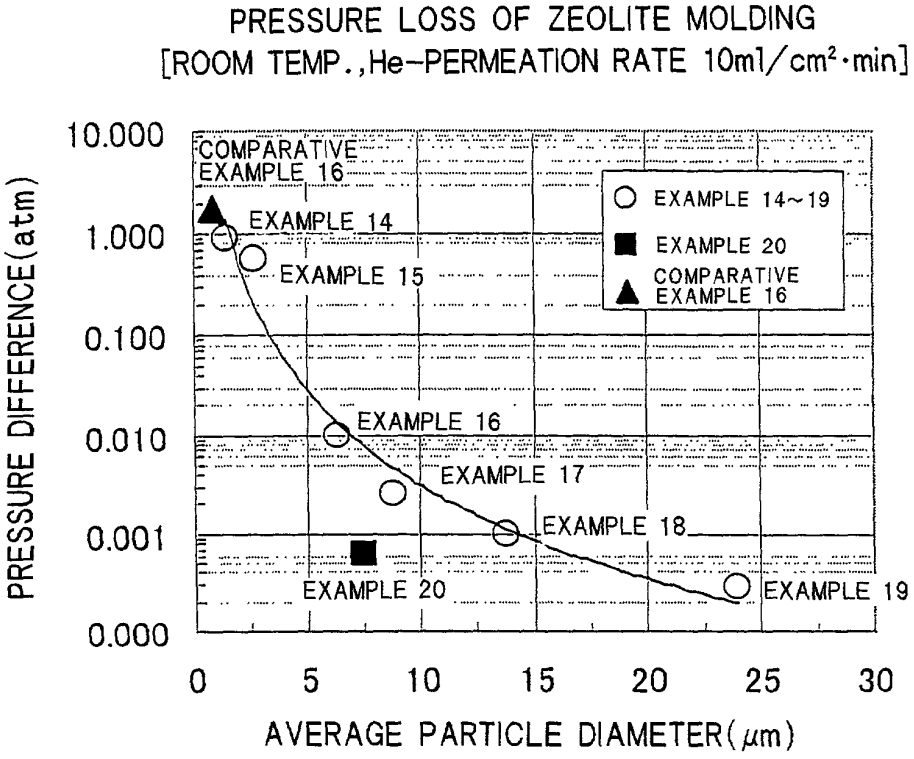
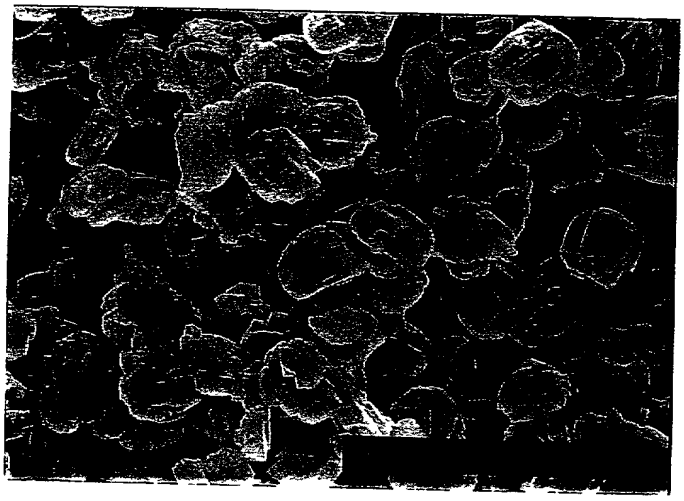

PRESSURE LOSS OF ZEOLITE MOLDING
[ROOM TEMP.,He-PERMEATION RATE 10ml/cm²·min]
PRESSURE DIFFERENCE(atm)
10.000
1.000
0.100
0.010
0.001
0.000
0
5
10
15
20
25
30
AVERAGE PARTICLE DIAMETER(μm)
COMPARATIVE EXAMPLE 16
EXAMPLE 14
EXAMPLE 15
EXAMPLE 16
EXAMPLE 17
EXAMPLE 18
EXAMPLE 19
EXAMPLE 20
EXAMPLE 14~19
EXAMPLE 20
COMPARATIVE EXAMPLE 16

FIG.12

10μm

FIG.13



10μm

FIG.14

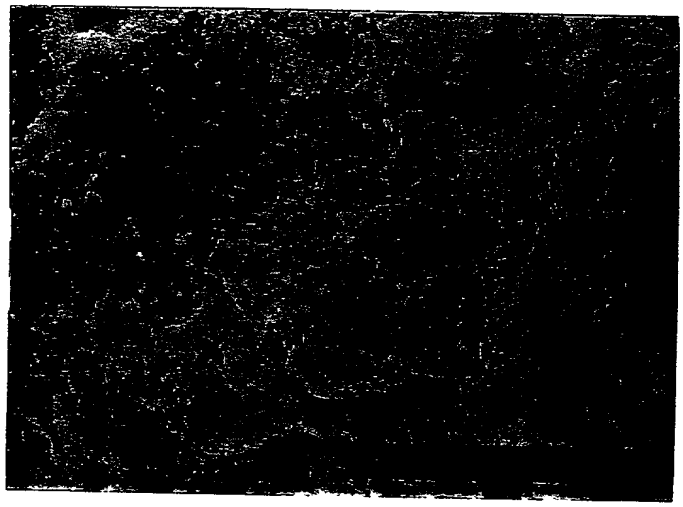


FIG.15

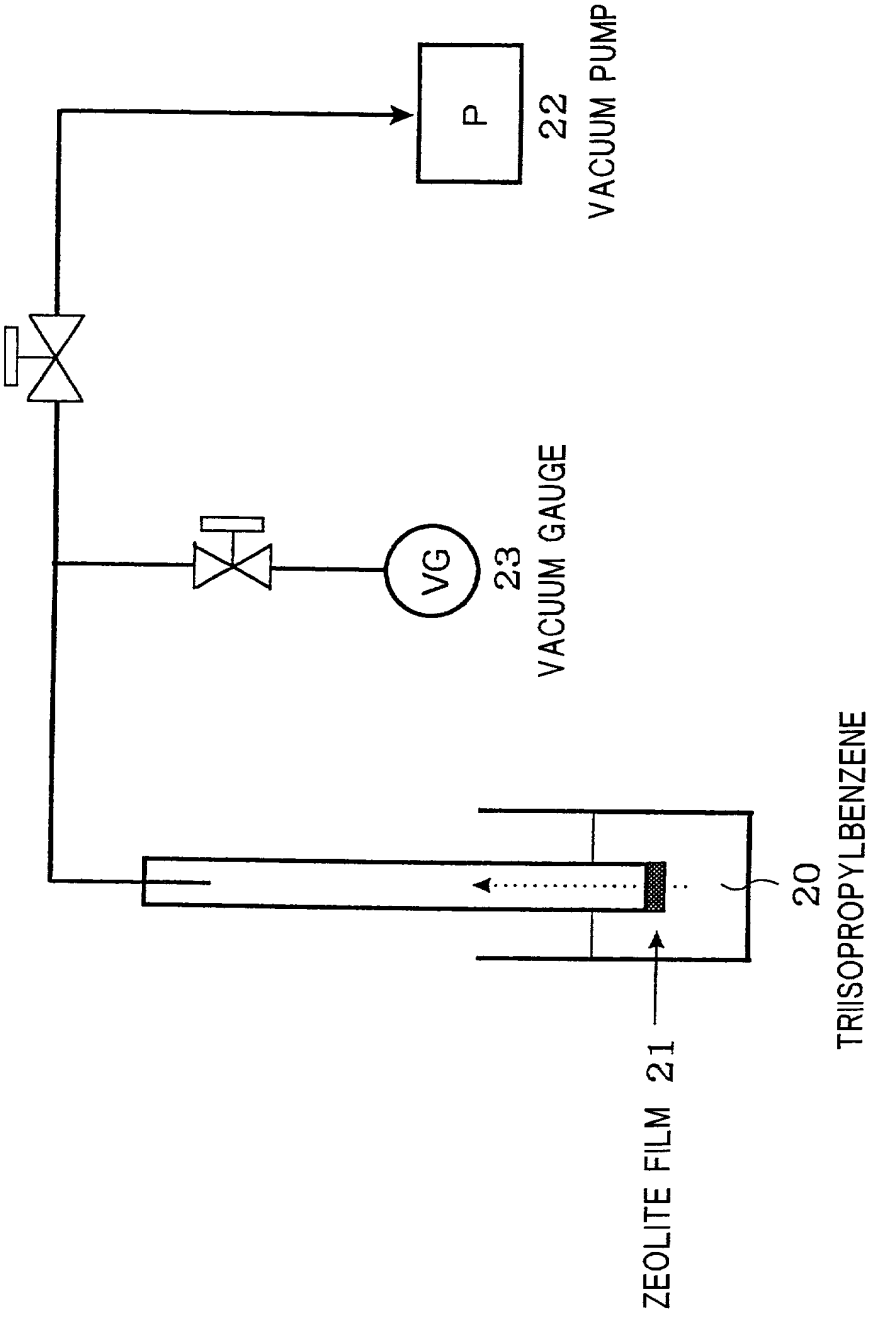

P
22
VACUUM PUMP
VG
23
VACUUM GAUGE
20
TRIISOPROPYLBENZENE
ZEOLITE FILM 21

FIG.16

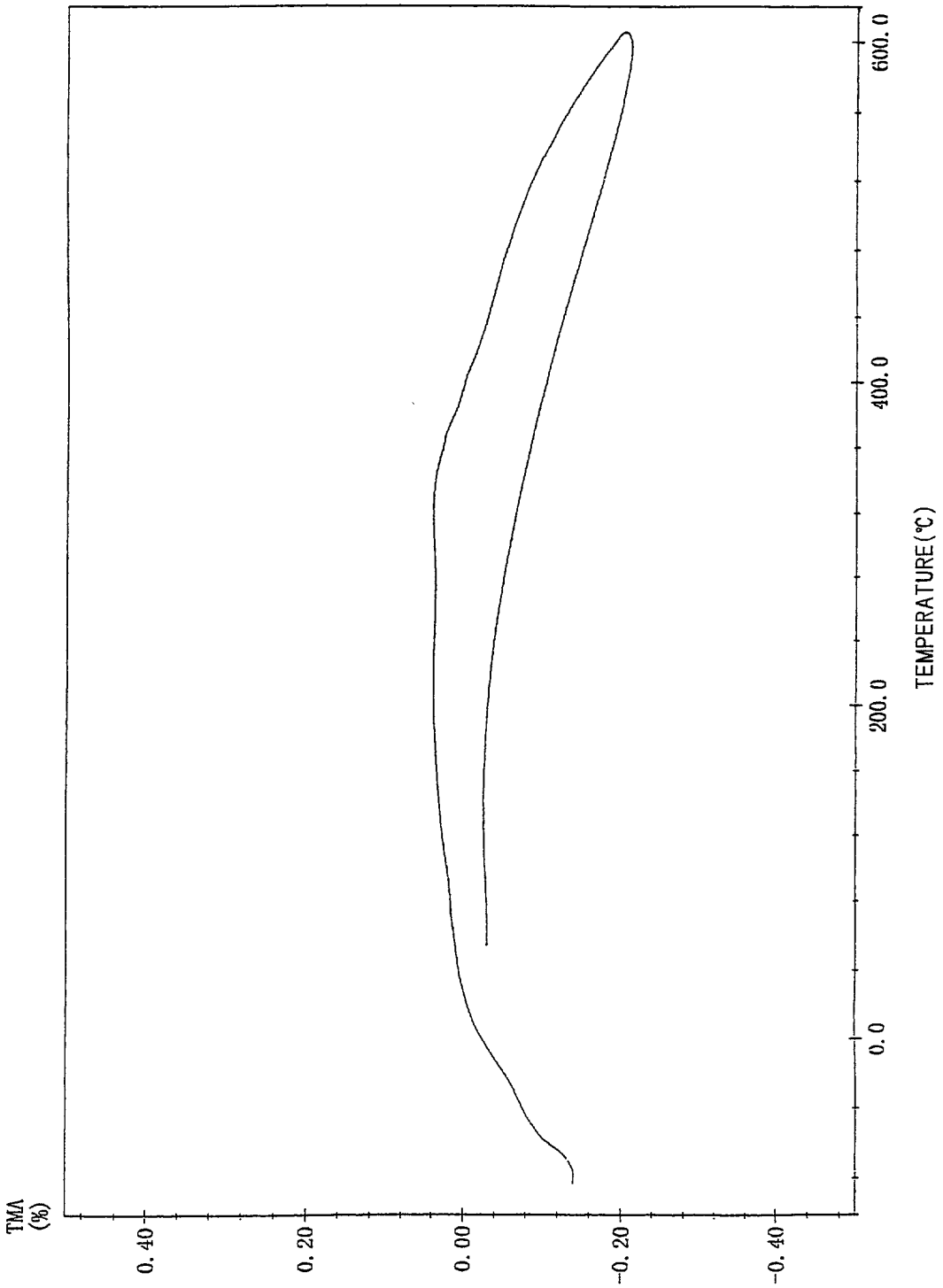


FIG.17

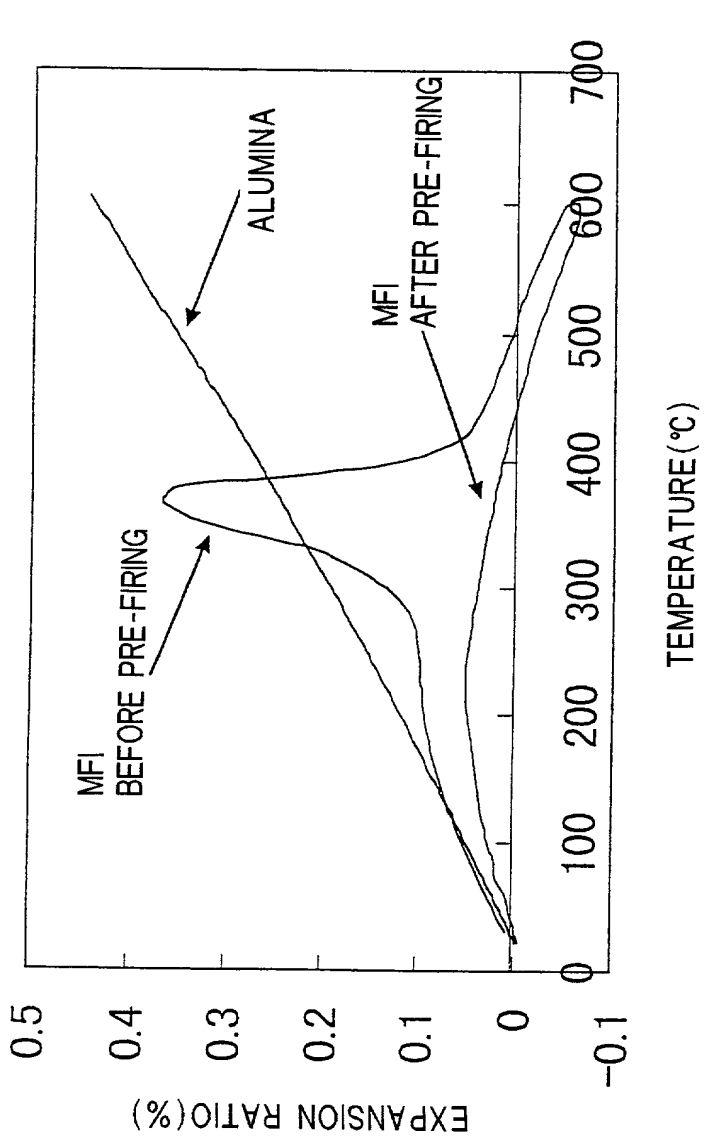
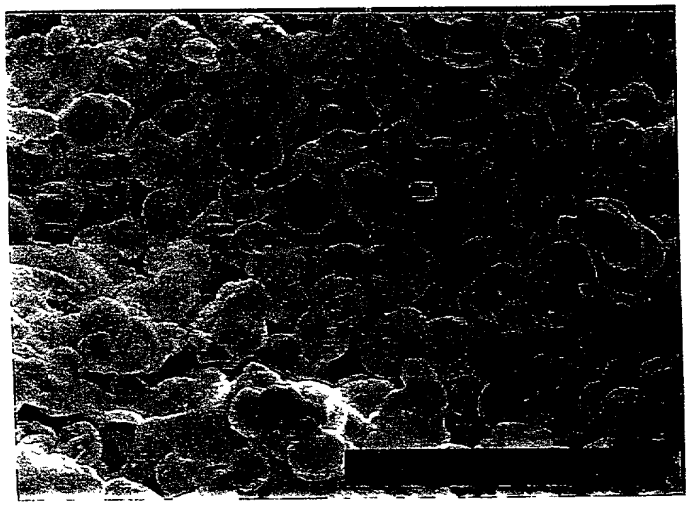
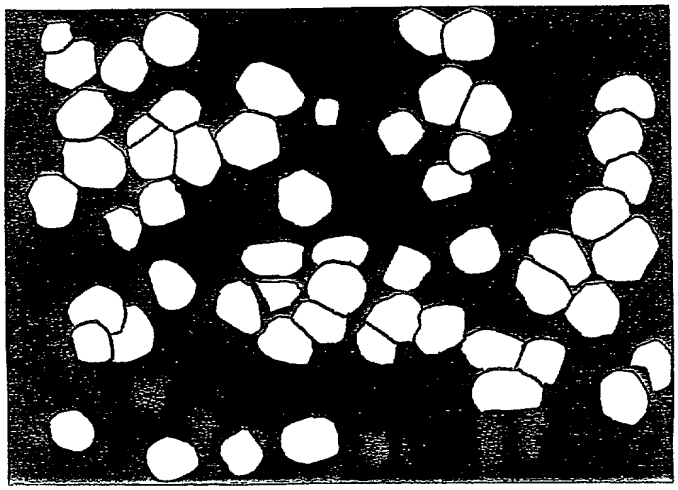

THERMAL EXPANSION COEFFICIENT OF ALUMINA AND MFI ZEOLITE
MFI
BEFORE PRE-FIRING
ALUMINA
MFI
AFTER PRE-FIRING
EXPANSION RATIO(%)
0.5
0.4
0.3
0.2
0.1
0
-0.1
0
100
200
300
400
500
600
700
TEMPERATURE(℃)

FIG.18



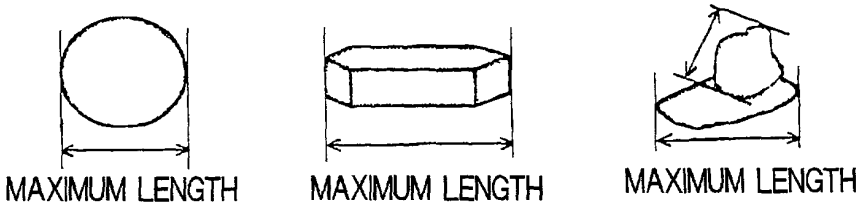
100μm

FIG.19



100μm

FIG.20(a) FIG.20(b) FIG.20(c)



IN THE CASE OF SPHERICAL PARTICLE

IN THE CASE OF PLATE-LIKE PARTICLE

IN THE CASE OF IRREGULAR-SHAPE PARTICLE

FIG.21

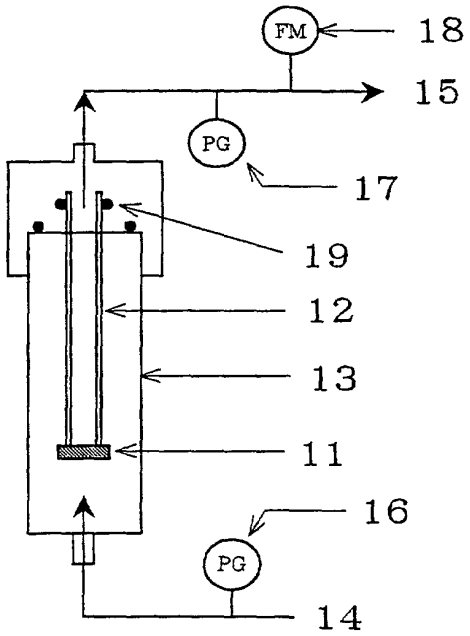


FIG.22

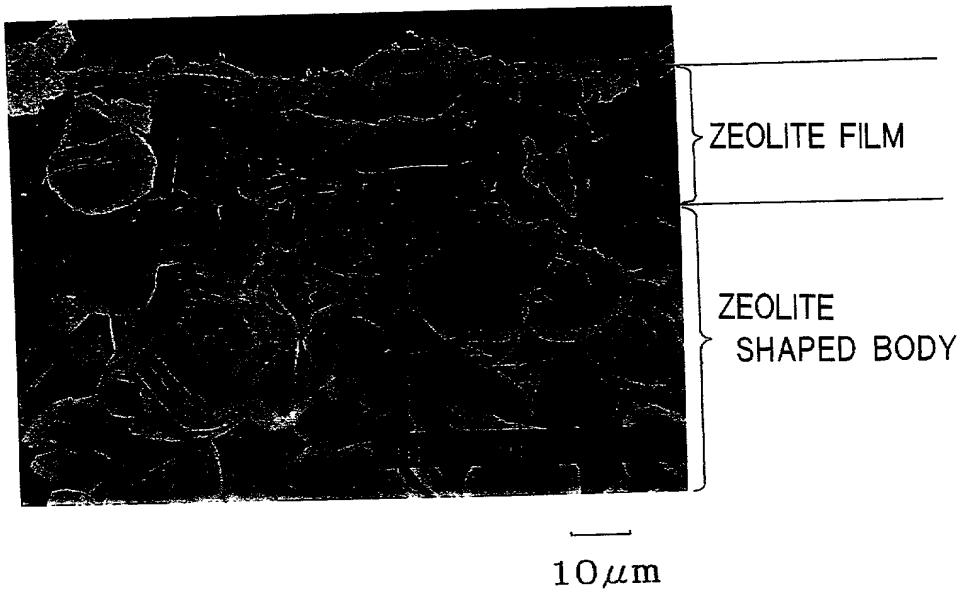


FIG.23

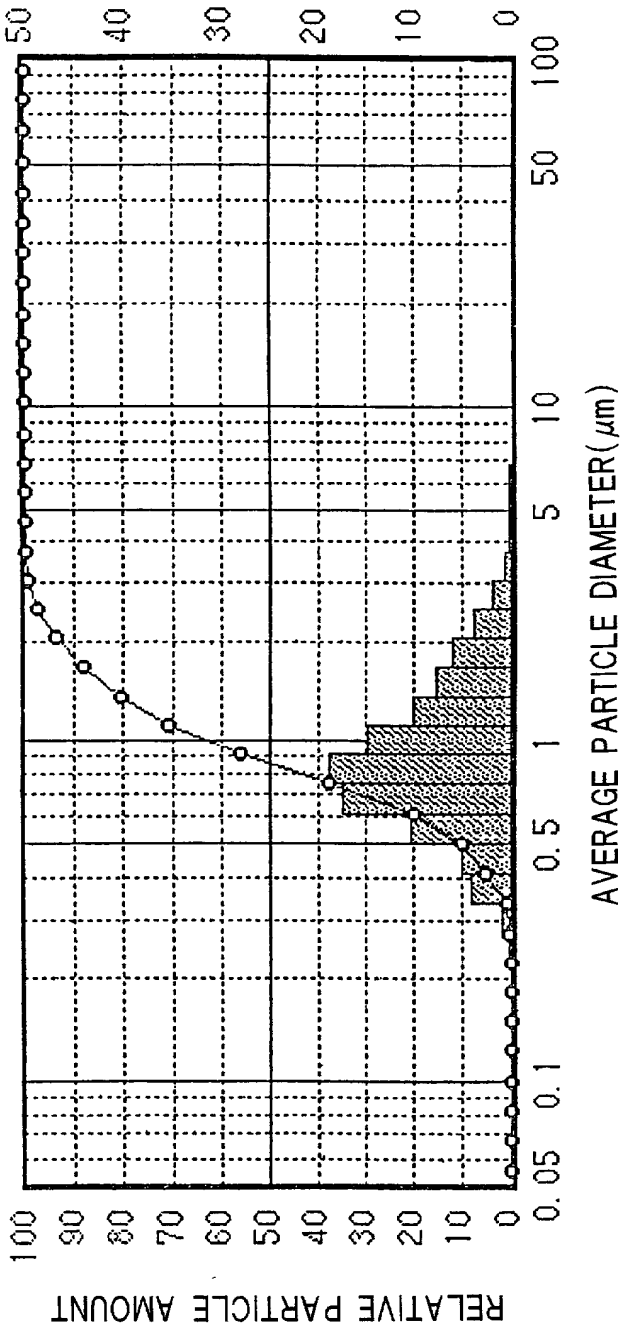
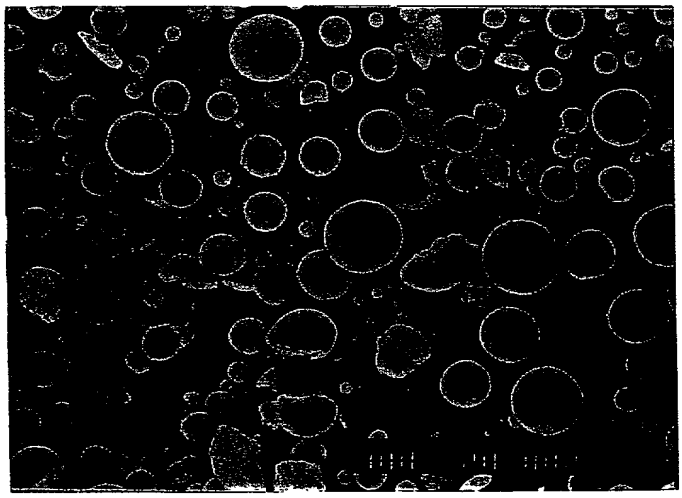
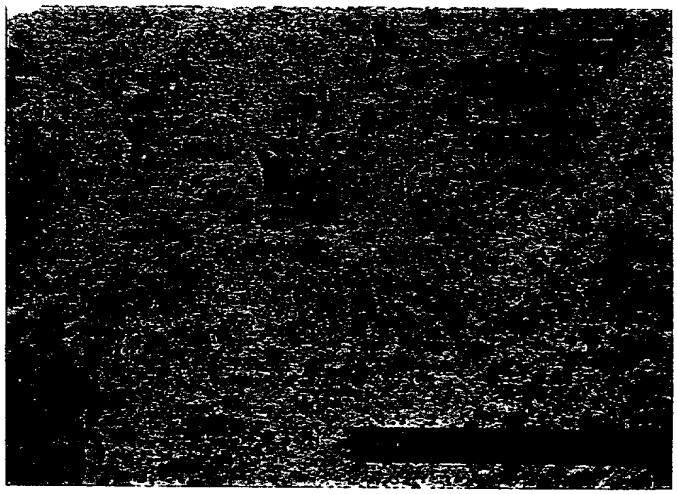

RELATIVE PARTICLE AMOUNT
100
90
80
70
60
50
40
30
20
10
0
AVERAGE PARTICLE DIAMETER(μm)
0.05
0.1
0.5
1
5
10
50
100
50
40
30
20
10
0

FIG.24



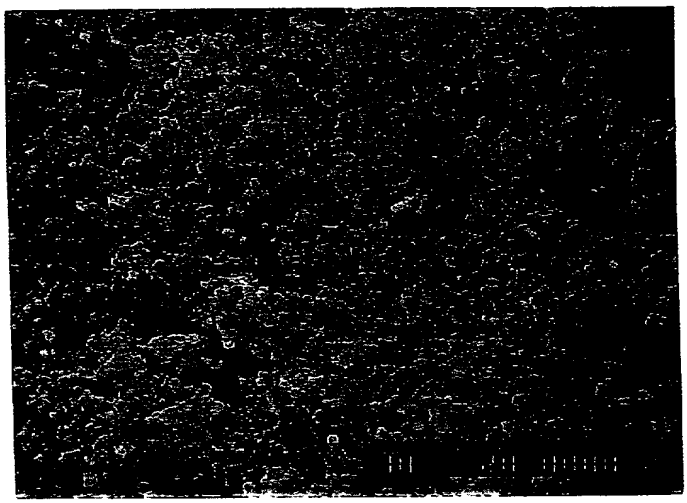
100μm

FIG.25



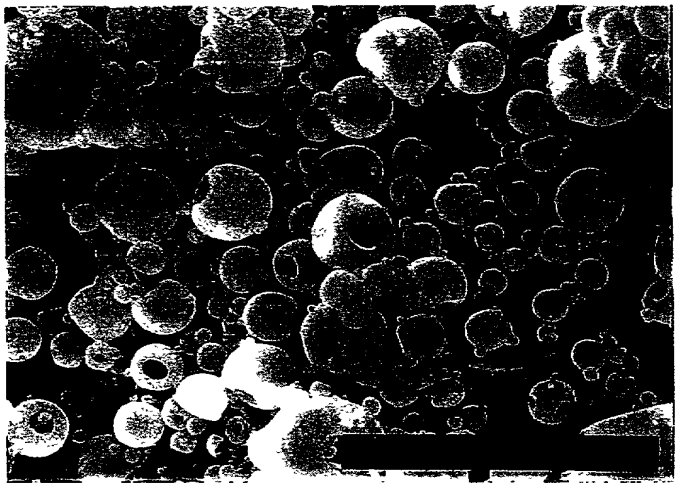
100μm

FIG.26



10μm

FIG.27



10μm

FIG.28

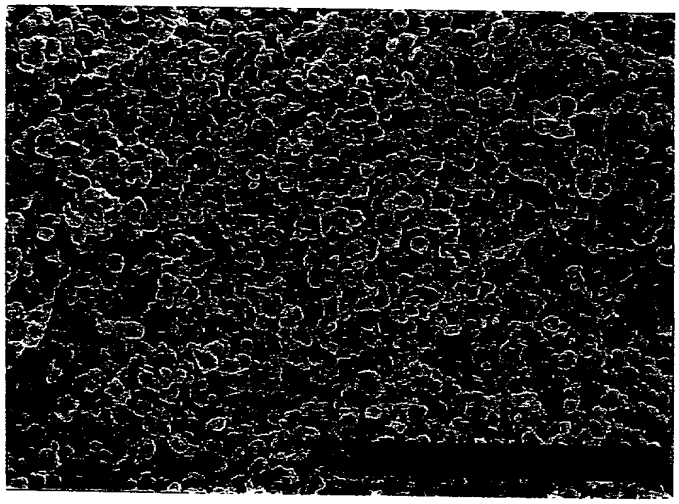


FIG.29

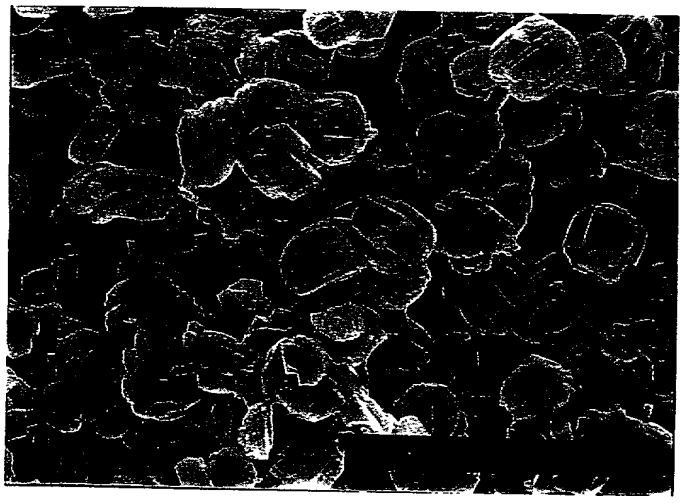


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FIG.30

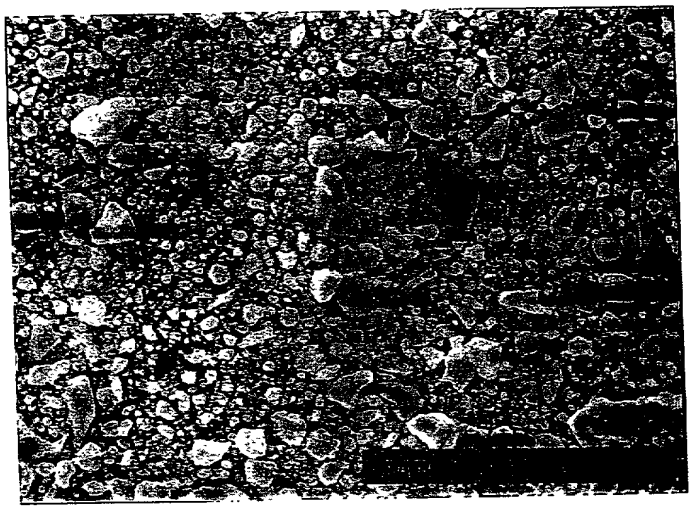


FIG.31

FIG.32

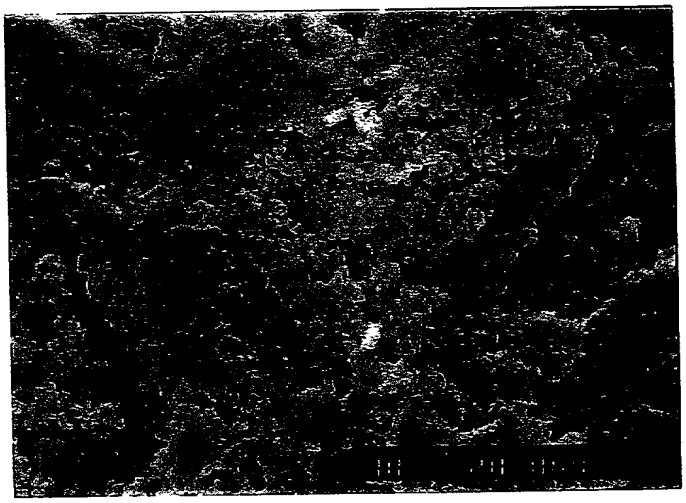
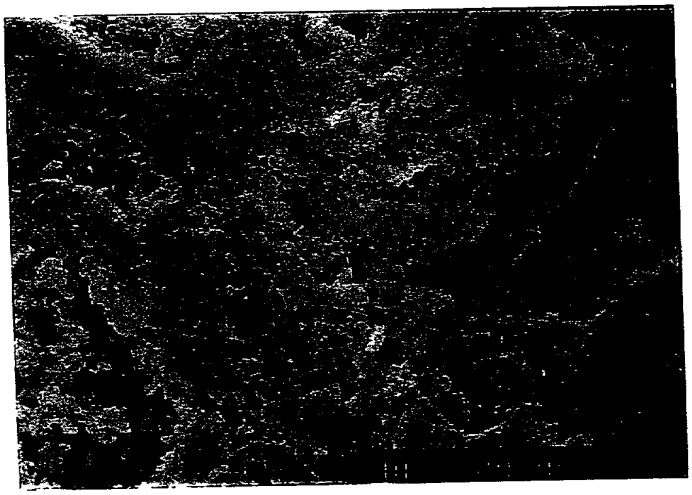
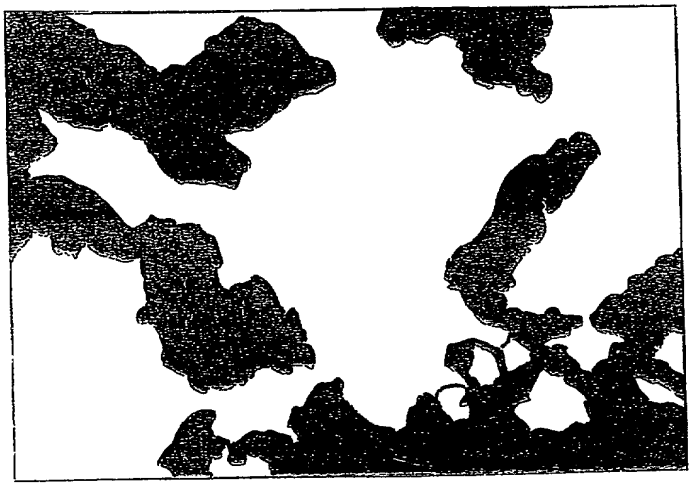


FIG.33



10μm

FIG.34



10μm

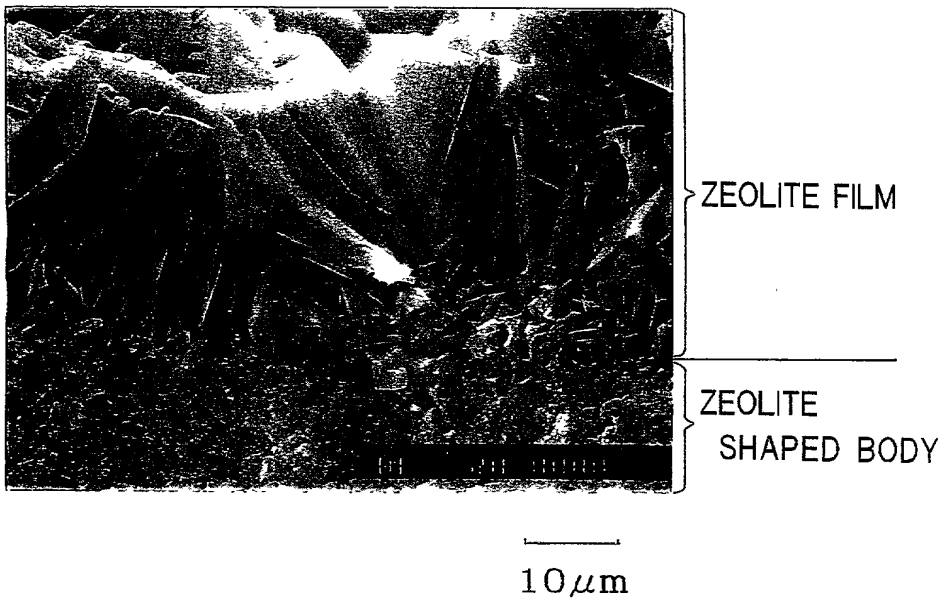



FIG.35